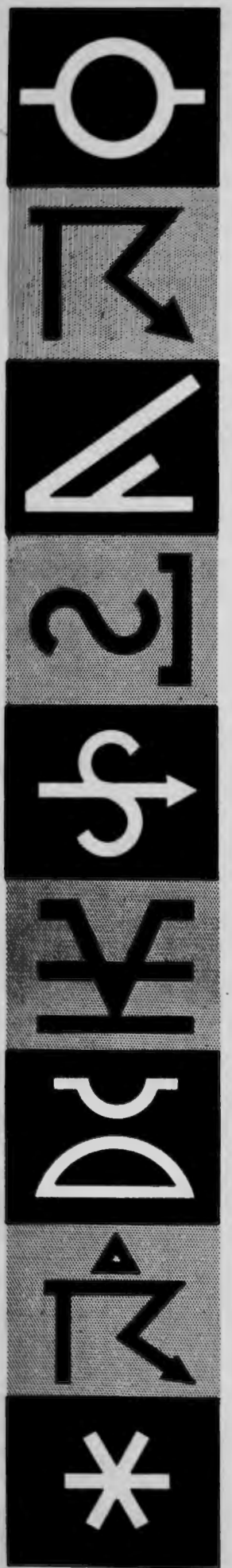

ZEPHYR

JANUARY 1976 JANVIER

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ZEPHYR

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WMO STATEMENT ON MODIFICATION TO THE OZONE LAYER DUE TO MAN'S ACTIVITIES

In response to general concern over threats to the ozone layer from a variety of man's activities (nuclear explosions, aircraft emissions, aerosol sprays) the Atmospheric Environment Service (AES) expanded its observational and research program on atmospheric ozone. The Advisory Committee on Stratospheric Pollution, which was established to serve as a focal point for Canadian expertise in this field, expects to have a review of these programs and of the scientific results available this summer.

In the meantime, the attached statement from the World Meteorological Organization (WMO) is circulated for information and guidance. This statement was prepared by a Working Group of international experts, including several Canadians. Preliminary AES findings such as those presented to the House of Commons Standing Committee on Fisheries and Forestry on May 23, 1975 and others appearing in scientific reports, contributed significantly to the development of the WMO position.

Ozone is a form of oxygen in which each molecule contains three atoms (the oxygen we breathe has only two atoms per molecule). It exists in very small amounts throughout the atmosphere (less than 1 part in a million by weight) but is mainly concentrated in the so-called "ozone layer" which is in the stratosphere at a height of between 20 and 25 km. Ozone is of great importance for life on Earth as it screens out part of the harmful ultraviolet radiation from the sun. The absorption of this radiation by ozone is also a major source of energy in the stratosphere and any change in the amount of ozone could therefore have an effect on the climate of the Earth.

The WMO statement points out that the amount of ozone in the stratosphere is determined not only by photochemical reactions between oxygen atoms but also by reactions involving trace gases, such as the oxides of nitrogen and chlorine. The concentrations of these trace gases in the stratosphere could be affected by various human activities, notably high-flying aircraft, the use of chlorofluoromethanes (freons) in aerosol sprays and refrigerators, and the use of agricultural fertilizers. Each of these possibilities is examined in the WMO statement and the following conclusions are reached.

- Currently planned supersonic transport aircraft, due to their lower flight altitudes of 17 km and their limited numbers (30-50 projected) are not predicted to have an effect that would be significant or that could be distinguished from natural variations.

- A large fleet of supersonic aircraft flying at greater altitudes is predicted to have a noticeable effect on the ozone layer, and permissible total emission levels may have to be defined by international agreement.

- Although there is no likelihood of a significant change in the ozone layer in the near future as a result of changing agricultural practices, the matter deserves thorough study because of the substantial long-term effects which some scientists consider to be possible.

- The present evidence supports the view that a continued release of chlorofluoromethanes into the atmosphere may lead to a significant reduction in stratospheric ozone. The long-term steady-state effect of a continued release at the 1972 world rate of release would be about 10 per cent average ozone depletion, with an uncertainty factor of about two.

The statement then goes on to review the possible consequences of ozone depletion. It is estimated that a reduction of 10 per cent in ozone would result in an increase of about 20 per cent in the ultraviolet radiation in the wavelengths 280-320 nm reaching the Earth's surface. (The biological consequences of this increase are not considered in the WMO statement as this is a matter for biologists rather than meteorologists.)

As regards the climatological effects, the report states that it is expected that a reduction of 10 per cent in ozone would result in an average temperature decrease of up to 10°C in the upper stratosphere. Because of the complexity of stratosphere-troposphere interaction it is not possible to infer with any reliability what the full consequences of these changes would be on the Earth's climate.

The statement concludes with a proposal for a co-ordinated international programme to monitor and study all aspects of the stratospheric environment relevant to ozone.

* * * *

The WMO statement was prepared by an international group of experts on the stratosphere with the participation of leading ozone specialists and of representatives of the International Council of Scientific Unions (ICSU) and the United Nations Environment Programme (UNEP). Details of the future research programme will be elaborated at a meeting in Toronto, Canada, from 12 to 16 January 1976, convened by WMO with support from UNEP. It is hoped that UNEP, ICSU and other international organizations concerned will collaborate with WMO in the execution of the programme.

DÉCLARATION DE L'OMM SUR LES MODIFICATIONS DE LA COUCHE D'OZONE RÉSULTANT DES ACTIVITÉS DE L'HOMME

Pour répondre à l'inquiétude générale concernant la menace que constituent pour la couche d'ozone diverses activités de l'homme (explosions nucléaires, dégagements des aéronefs, aérosols), le Service de l'Environnement atmosphérique a élargi son programme d'observations et de recherches sur l'ozone présent dans l'atmosphère. Le Comité consultatif sur la pollution stratosphérique, créé pour regrouper toutes les connaissances accumuléés au Canada dans ce domaine, compte disposer cet été d'un compte rendu général des programmes et des solutions proposées pour résoudre le problème.

Entre temps, la déclaration ci-jointe de l'Organisation météorologique mondiale est diffusée pour votre gouverne. Cette déclaration a été rédigée par un groupe de travail formé d'experts du monde entier, y compris plusieurs Canadiens. Dans l'ensemble, elle est conforme aux constatations préliminaires du SEA présentées au Comité permanent des pêches et des forêts de la Chambre des communes le 23 mai 1975, ou publiées dans certains rapports scientifiques.

L'ozone est une forme d'oxygène dans laquelle chaque molécule contient trois atomes (les molécules de l'oxygène que nous respirons n'en contiennent que deux). Il est présent en très petites quantités dans toute l'atmosphère (moins d'une partie par million en poids mais est concentré principalement dans la couche dite "d'ozone" située dans la stratosphère entre 20 et 25 km d'altitude. L'ozone présente une grande importance pour la vie sur notre planète étant donné qu'il filtre une partie des rayons solaires ultraviolets

nuisibles. L'absorption de ces rayons par l'ozone constitue également une importante source d'énergie dans la stratosphère et toute modification de la quantité d'ozone pourrait donc avoir des incidences sur le climat de la Terre.

La déclaration de l'OMM précise que la quantité d'ozone contenue dans la stratosphère est déterminée non seulement par les réactions photochimiques qui se produisent entre les atomes d'oxygène, mais également par les réactions dans lesquelles interviennent des gaz rares tels que les oxydes d'azote et de chlore. Les concentrations de ces gaz rares dans la stratosphère pourraient être modifiées par diverses activités de l'homme et, notamment, par les aéronefs volant à haute altitude, du fait de l'utilisation de chlorofluorométhanes (fréons) dans les atomiseurs et les réfrigérateurs et de l'utilisation d'engrais chimiques. La déclaration de l'OMM examine chacune de ces possibilités et aboutit aux conclusions suivantes:

- En raison de leur altitude de vol relativement basse, de l'ordre de 17 km, et de leur effectif restreint (30 à 50 en projet), les aéronefs supersoniques de transport qu'il est actuellement prévu de faire voler, ne devraient pas avoir d'effet significatif qui puisse être distingué des variations naturelles.
- Une nombreuse flotte d'aéronefs supersoniques volant à plus haute altitude aurait par contre des effets notables sur la couche d'ozone et il pourrait alors être nécessaire de fixer par accord international un niveau global d'émission à ne pas dépasser.
- Bien qu'il ne faille pas s'attendre à une modification significative de la couche d'ozone dans un proche avenir du fait de l'évolution des pratiques agricoles, la question mérite cependant d'être étudiée de manière approfondie, étant donné que certains scientifiques estiment que les changements intervenus pourraient avoir des effets appréciables à longue échéance.
- Les faits actuellement connus conduisent à penser que, si les dégagements de chlorofluorométhanes dans l'atmosphère se poursuivaient, il pourrait en résulter une réduction significative de la quantité d'ozone stratosphérique. A long terme, si les rejets de fréon dans l'atmosphère se poursuivaient au rythme qu'ils ont atteint dans le monde en 1972, il en résulterait une baisse de la quantité d'ozone de l'ordre de 10 pour cent en moyenne, avec un coefficient d'incertitude de 2 environ.

La déclaration envisage ensuite les conséquences possibles de la diminution de la quantité d'ozone. On estime qu'une réduction de 10 pour cent de la quantité d'ozone entraînerait une augmentation d'environ 20 pour cent du rayonnement ultraviolet (longueur d'onde: 280 à 320 mn) qui atteint la surface terrestre. (Les conséquences biologiques de cette augmentation ne sont pas prises en considération dans la déclaration de l'OMM, car il s'agit-là d'une question qui est davantage du ressort des biologistes que de celui des météorologistes).

En ce qui concerne les effets climatiques, on prévoit qu'une diminution de 10 pour cent de la quantité d'ozone entraînerait une baisse de 10°C de la température en moyenne dans la haute stratosphère. Il n'est pas possible, étant donné la complexité des interactions entre la stratosphère et la troposphère, de prévoir exactement quelles seraient toutes les conséquences de ces modifications sur le climat de la Terre.

La déclaration préconise, en conclusion, un programme international coordonné pour surveiller et étudier tous les aspects de l'environnement stratosphérique qui concernent l'ozone.

La déclaration de l'OMM a été préparée par un groupe international d'experts des questions stratosphériques, avec la participation d'éminents spécialistes de l'ozone ainsi que de représentants du Conseil international des Unions scientifiques (CIUS) et du Programme des Nations Unies pour l'environnement (PNUE). Les détails du futur programme de recherches en la matière seront mis au point lors d'une réunion, organisée par l'OMM avec l'appui du PNUE, qui se tiendra à Toronto (Canada) du 12 au 16 janvier 1976. On espère que le PNUE, le CIUS et les autres organismes internationaux intéressés collaboreront avec l'OMM à l'exécution du programme en question.

NEW RADAR CLIMATOLOGY COMPUTER

At the end of January the Hydrometeorological Services Section, CSD, took delivery of the first components of a new MODCOMP IV computer system that had been purchased specifically for use in radar climatology. This system will be used to process radar data recorded on magnetic tape at the five new SCEPTRE radar sites. Data acquisition from the site near Ottawa is expected to begin about October 1976 with acquisition from the other sites (Vancouver, London, Quebec City, and Newfoundland) expected to commence at different times within the following year.

One unusual feature of this system will be the use of a color television display. With this configuration, it will be possible to display a radar picture in color with each color representing an area with similar rainfall rates. This feature will be extremely helpful when checking the quality of radar data and when analyzing the mesoscale structure of rainstorms.

The system will be used to control the quality of radar data and prepare statistical summaries of radar echoes. These statistical summaries will be useful for the design of hydrologic structures, microwave communication links, radar systems, etc. In addition, the data will provide a valuable base for the mesoscale analysis of precipitation events for forecasting purposes.

For those interested in computers, the following are the statistics on the new system as it will be when all components are installed: 128K bytes of memory; 2-9 channel, dual density magnetic tape drives; a disc drive with 25 million bytes storage; 3 terminals, a color television display and an electrostatic printer/plotter. Benchmark comparisons indicated that this system has 5 or 6 times faster computational speed than the Hewlett Packard systems presently in major weather offices, the Digital Equipment systems being installed in the SCEPTRE field systems, and the IBM system used for climatological data processing. This speed will ensure that it can handle input from all 5 SCEPTRE field systems.

IN DAYS OF YORE. . .

AU TEMPS JADIS. . .

Seated, L.-R. ; assis, de g. à d. : D. Boyd, G.R. Kendall, Jackson, E. Allison, J. Hull, A.A. Hoover.
Middle row, L.-R. ; au centre, de g. à d. : J. Miller, L. Glendenning, E.M. Elsley, E.R. Walker, G. Muttitt, H. Capelle.
Top row, L.-R. ; à l'arrière, de g. à d. : P.J. Denison, J. Parneel, C.H. Sutherland, S.V.A. Gordon, G.H. Washburn.

1942 CLASS PICTURE/BY E. EINARSSON

The following comments apply to the class picture and caption on Page 20 of the October, 1975 issue of Zephyr.

Second from left in the first row is not F. M. Riddle, but Francis Gisli Scott.

The unidentified gentleman between Messrs. Markham and Dexter in the first row is R. J. (Bob) Smith.

First in the fourth row is Henry George Capelle.

J. Bocking, I believe should be Charles Bocking.

B. Parkhurst I believe should be Harvey Parkhurst.

Between Messrs. Wilson and Godson in the 6th row is a chap by the name of Andrews.

Number 7 in the seventh row, I believe, is McWilliams, a frequent companion of Jack Heise.

Editor's Note: Thank you very much for the information.

EARLY DAYS IN GANDER
IL Y A QUELQUE TEMPS . . . A GANDER

Front Row: L.-R. – A l'avant : de g. à d. – A.G. MacVicar, J.J. Moakler, B. Cudbird, K.T. McLeod.
Second Row: L.-R. – Au centre : de g. à d. – Rod Goff, John Ferris, Don S. Ross, H. Hutchon, N.R. Healey.
Back Row: L.-R. – A l'arrière : de g. à d. – Max Warren, H.H. Bindon, Bruce Walliser.

RETIREMENT – J.G. HENDERSON

John Henderson, veteran staff member of the Directorate of Meteorology and Oceanography (D Met Oc), National Defence Headquarters, Ottawa, retired at the end of 1975.

Following wartime service in the RCN as a telegraphist, John joined the Meteorological Branch of the DOT in 1945, spending five years as a met tech at Halifax and six years as OIC of the observing station at Ottawa (Uplands) Airport. Thereafter, except for four years LWOP as Executive Secretary of the Canadian Air Services Association, John worked in the Directorate of Naval Weather Service at Naval Headquarters and, following unification of the Canadian Forces, in the Directorate of Meteorology and Oceanography at National Defence Headquarters.

John was well known throughout the Canadian Forces Weather Service, and by personnel of the AES Administration Branch, for the cooperative and understanding manner in which he resolved supply problems for field units.

A retirement dinner was held for John and Marie on January 12, 1976. Out-of-town guests included John's son, John III, from Windsor Ontario; Mr. Ray Fichaud, RD Quebec Region; Mr. Bill Ganong, Director of the Ice Branch; and Mr. Dave Nowell, SSO Meteorology, Maritime Command Headquarters.

The Hendersons recently moved to Aylmer Quebec, where Marie will be able to more frequently use her native French and John will have more time for his favourite hobbies, namely, artistry and girl watching.

At the head table: (L.-R.)/A la table d'honneur (de g. à d.) Mrs. Fichaud, Mr. H.V. Tucker, John Henderson, Marie Henderson and Mr. Ray Fichaud.

RETIREMENT – E.J. GREGGA

Ed Gregga, Senior Staff Officer Administration in the Directorate of Meteorology and Oceanography (D Met Oc), National Defence Headquarters, Ottawa, retired effective 30 December, 1975 after 31 years with the Atmospheric Environment Service.

A former teacher in Saskatchewan and a member of the Royal Canadian Navy during WW II, Ed joined the Meteorological Branch of DOT in 1945 as a met technician. He served at Winnipeg and then with the former Climatology and Basic Weather Divisions at the Met Branch's Toronto headquarters. While in Toronto, Ed was "custodian" of MANOBS for nearly five years, prepared the Supply Manual and Catalogue (still in use by AES) and authored several instruction booklets for use by climatological observers. In 1970 he moved to D Met Oc, and will be widely remembered by his CFWS colleagues for the assistance he gave to field office staff in the areas of civilian personnel and financial administration.

On 13 November, 1975, many of Ed's friends and colleagues gathered for a retirement dinner at the Town and Country Restaurant. Anne and Ed have since returned to their old "stomping grounds" of Toronto and are now living in Scarborough.

Ed Gregga (left) receives a CFWS farewell gift from Harry Tucker, D Met Oc. Anne Gregga is looking on.
Ed Gregga (à g.) reçoit par l'entremise de Harry Tucker, de la Direction générale de la météorologie et de l'océanographie, un cadeau d'adieu de la part du Service météorologique des Forces canadiennes. Anne Gregga observe la scène.

RETIREMENT – NICK ZAMOLSKY

On December 30, 1975, Mr. Nick Zamolsky retired after spending over 30 years as a Meteorological Technician with the Atmospheric Environment Service.

Nick joined the Service on November 11, 1945, shortly after spending 4 years overseas as a Radio Operator on heavy bombers. During his career in A.E.S. he was posted to Churchill, Suffield, Edmonton and for the last 24 years he has been in Calgary.

To mark the occasion of his retirement a dinner was held on December 10, 1975.

His friends and colleagues wish Nick, his wife Maxine and their young son Miles, a long and happy retirement in the Calgary area.

Nick with gift after presentation by Gordon McDonald.
Nick, cadeau en main, après la présentation faite par Gordon McDonald.

LE VOL A VOILE

par E. Walsh

Depuis le milieu d'août, le bureau Météorologique de Québec offre un nouveau service visant une clientèle spécialisée: les prévisions pour le vol à voile. Ceci fait suite à une demande du club de Vol à Voile de Québec (CVVQ), par l'entremise de M. Claude Gauvin, instructeur-pilote, qui au cours d'une visite à nos bureaux nous a fait part du besoin qui existait à ce niveau. Avec l'accord du Chef de Service, M. J. Bureau, j'ai étudié la possibilité de mettre au point la réalisation de ce projet.

Les bureaux de prévisions de Montréal et Toronto, ayant déjà mis au point de semblables projets, je communiquai avec les responsables de ces endroits, qui me firent parvenir la documentation nécessaire. Se basant sur leur propre expérience en ce domaine, ils m'ont assuré de la viabilité d'un tel projet et de leur entière collaboration si le besoin s'en faisait sentir.

J'ai dû me rendre aussi à quelques reprises au CVVQ, situé à St-Raymond, 35 m à l'ouest de Québec, pour y discuter de leurs besoins et prendre connaissance des conditions topographiques locales. Au cours de ces visites, il fut décidé de la formule que prendraient ces prévisions ainsi que du rapport que les pilotes nous fourniront à la fin de chaque journée de vol. Ces formules ont été revisées d'après celles déjà en usage au Canada et aux E.U., tenant compte des besoins locaux. (Voir formules ci-jointes).

Les membres du CVVQ font du vol tous les jours, si les conditions le permettent, durant la saison estivale. Ces vols sont dit thermiques c.-à-d. qu'ils se servent de la convection pour se maintenir dans les airs. Pour le moment, ces envolées sont locales, dans un rayon de 20-25 milles de leur point d'attache. A l'aide de ces courants, ils se rendent jusqu'à la base des CU, car ils se doivent de voler à vue (VFR), et y restent plusieurs heures. La base de ces nuages dépasse fréquemment 6000; la force de ces courants est en moyenne de 400-600 pieds par minute, avec de fréquents courants maximum de 1000 pieds par minute et plus. A partir de l'an prochain, à l'aide de nos prévisions, ils pourront planifier des vols de plus de 200 m , dans le but d'obtenir des médailles de mérite.

Au printemps et à l'automne ces gens font du vol de montagne, à Baie St-Paul, à l'Est de Québec. Cette fois ils se servent des vents en altitude latéraux au-dessus d'assez hautes montagnes à escarpement très prononcé. A l'aide de ces vents, ils ont réussi à atteindre 18,000 pieds.

La période de rodage qui a commencée avec la mise en vigueur de ce service se continuera cet automne et le printemps prochain. Nous serons en mesure de fournir un service régulier pour la période la plus achalandée, soit l'été. Les pilotes nous font parvenir, à intervalles réguliers, leurs rapports de vol que nous comparons avec les prévisions, lesquelles sont faites à l'aide des téphigrammes YMW (Maniwaki) et Valcartier, des cartes actuelles et prévues de 850 mb et 700 mb, la carte de surface de 1200Z et le graphique d'Index Thermique ou Index de Stabilité. Jusqu'à ce jour, les prévisions et les observations se vérifient très bien.

Pour que cette expérience se poursuive, l'intérêt marqué de par et d'autre devra continuer à se manifester. Cet intérêt sera d'autant plus grand que les prévisions sont précises. Si l'on s'en tient aux résultats actuels, le projet est en bonne voie.

SVERDRUP GOLD MEDAL AWARDED TO CANADIAN

The Sverdrup Gold Medal is an award given by the President of the American Meteorological Society on the advice of an international committee appointed in consultation with representatives of the Scripps Institution of Oceanography, La Jolla, Calif., and the University of Bergen, Norway. This year the medal was awarded to Dr. Robert W. Stewart, Director-General, Pacific Region, Ocean and Aquatic Sciences, Environment Canada, Victoria, B.C., Canada, "for outstanding leadership in experimental and theoretical research in problems of the air-sea interface, and the adjacent turbulent boundary layers of the atmosphere and ocean. He has brought the high standards of measurement and analysis of the laboratory to field studies and has pioneered measurements of surface waves and turbulence in the upper ocean."

Dr. Stewart has held his current position since 1970; prior to this he was a Research Scientist for the Canadian Defence Research Board, Victoria, B.C., from 1950-61, and Professor of Physics and Oceanography at the University of British Columbia, Vancouver, from 1961 until 1970, when he was named Honorary Professor. He has been a Visiting Professor at Dalhousie University, Harvard University, and Pennsylvania State University, Commonwealth Visiting Professor at Cambridge University, and spent three months on a working visit at the Institute of Atmospheric Physics, Moscow. Dr. Stewart has served as the Chairman of the Joint Organizing Committee of the Global Atmospheric Research Program, and has been active on committees of numerous national and international organizations, including the Royal Society of Canada, National Research Council, ICSU, IAMAP, IAPSO, and WMO. He is widely published in the professional literature and holds the following degrees: the B.Sc., M.Sc. (Queen's); Ph.D. (Cambridge University); D.Sc. (McGill); and the LL.D. (Dalhousie). Dr. Stewart is a Fellow of the Royal Society and of the Royal Society of Canada.

CODS BUOYS

by R.G. Stark

Hermes Electronics Limited of Dartmouth, N.S. is producing for the Department of the Environment, prototype large buoys for the ocean and smaller buoys for restricted coastal waters and the Great Lakes. This program, the result of an unsolicited proposal, is called Design Studies for a Canadian Ocean Data System (CODS).

Phase I of the project will produce Development Test Modules (DTMs) of several types. For the large buoys, two 10 m discus buoys (one steel and one fibreglass), one spar buoy and one modular type, are being constructed. The two Limited Capacity Buoys (LCBs) being produced for the Great Lakes and coastal waters are small enough to be transported by truck and small ship.

As well as the Atmospheric Environment Service, other components of the DOE are involved, including the Bedford Institute of Oceanography, and the Canadian Centre of Inland Waters, at Burlington, Ontario.

The launching of Discus No. 1.
Le lancement de Discus nº 1.

Discus No. 1 under tow to fitting out dock.
Discus nº 1 est remorqué jusqu'au quai où se fera l'installation des instruments.

Photos Courtesy of/Les photos sont une gracieuseté de
Bedford Institute of Oceanography.

Extensive testing will be carried out this summer, including studies of physical characteristics of the buoys, meteorological and oceanographical measurements, communication facilities and power sources. The Bedford Institute is sponsoring a month of international comparison tests, beginning in late September. It is hoped to compare data from various types of buoys from several nations. This testing will take place 15 to 20 miles off the Halifax harbour entrance. A Bedford Institute stable tower will be anchored in the test area to provide a comparison between tower and buoy platforms. On the stable tower, AES will install the same meteorological package which is to be used on the Bedford tower for the Olympic sailing events at Kingston, Ontario.

As well as a study of the state of the art, and production and testing of the DTMs, the contract with Hermes calls for a survey of present and future user requirements for buoys.

It appears that the AES may have requirements for buoys within a few years. Possible uses include ocean buoy networks, ice and water buoys for the Arctic Ocean and Hudson Bay, and real-time measurements from large lakes. In addition to fixed buoys, floating expendible buoys may be needed. It is expected that several hundred drifting buoys will be deployed in the southern oceans during the First Garp Global Experiment (FGGE) in 1978-79.

SHARP TEST PLAN

(For Short Range Automated Radar Prediction)

Arrangements and plans for the six-month operational proving-test for automated rain prediction, using radar, received final agreement early in February from the inter-Directorate Committee set up to advise on the conduct of the Test.

As reported in September, the real-time test of SHARP will be carried out in Montreal, with the McGill Stormy Weather Group Radar and its computer linked by remote terminal to the Montreal Weather Office and probably also to other experimental users. The Test begins in April and runs through to September, with predictions generated by the computer at half-hour intervals and extending out to three hours. The output will be on a computer line-printer and provides forecasts both for selected point locations and for areal depiction.

The technique used in SHARP I (the first version of SHARP) is essentially extrapolation of the observed movement of observed patterns at constant altitude (CAPPI's). Later SHARPs will reflect the result of further technique-improvement, some of which is already underway, e.g., to make predictions responsive to larger-scale meteorological controls, to use empiricism based on local historical data on the occurrence, development and decay of echoes, and to handle data from more than one radar site, etc. SHARP I, how-

ever, does recognize ground echoes and procedures are under study to deal with these even under conditions of anomalous radar propagation when there are returns from terrain features not normally visible.

The operational test will effectively result in engineering SHARP into a real-time operation, integrating this into the work of the Montreal Weather Office, verifying and evaluating output over a six-month period, identifying deficiencies and practicable improvements, and a final report. The latter will include configurations and costs for adopting SHARP as a permanent operational system, building on existing systems using remote radar.

METEOROLOGICAL INSPECTORS WORKSHOP – SEMINAR 1976

by A. Missio

Nominees from across the country and Headquarters attended the three-week Meteorological Inspectors Workshop-Seminar, held under the auspices of the Observational Systems Division of Field Services Directorate and coordinated by Technical Training Division of Central Services Directorate.

As in the past, the first two weeks were devoted to a workshop under the direction of Atmospheric Instruments Branch. This year, more "hands-on" activities were introduced and proved popular with the group. The final week was a seminar covering the non-instrument associated activities of meteorological inspection and a variety of guest speakers gave guidance and answered questions in their areas of responsibility. The workshop-seminar, as a whole, was deemed a success by the attendees.

ATELIER DES INSPECTEURS EN MÉTÉOROLOGIE – SÉMINAIRE 1976

par A. Missio

Les candidats, sélectionnés à travers le Canada et à l'Administration centrale du Service de l'environnement atmosphérique, assistèrent au séminaire-atelier des inspecteurs en météorologie. D'une durée de trois semaines, ce séminaire était placé sous les auspices de la Division des systèmes observationnels de la Direction des services extérieurs et coordonné par la Division de la formation technique de la Direction des services centraux.

Comme par les années passées, les deux premières semaines furent consacrées à un atelier dirigé par la Direction des instruments du SEA. Dans le cadre des ateliers, on introduisit cette année plusieurs activités pratiques qui furent des plus appréciées. La dernière semaine fut réservée à un séminaire sur les activités non-instrumentales de l'inspection en météorologie. Plusieurs conférenciers invités y allèrent de leurs conseils et répondirent aux questions relevant de leurs compétences. Selon les personnes présentes, ce séminaire-atelier se révéla dans l'ensemble un succès.

METEOROLOGICAL INSPECTORS WORKSHOP–SEMINAR 1976
ATELIER DES INSPECTEURS EN MÉTÉOROLOGIE–SÉMINAIRE 1976

Seated Left to right:/Assis, de g. à d.
F.J. Brunning, AFOI; A. Missio, ACGC; G.L. Pincock, AFSD; W.W. Stewart, AFOO; W. Halina, AFOP; C. Brown, AFOI.
Standing left to right:/Debout, de g. à d.
N.G MacPhail, ACHP; G. LeBlanc, Atl. Rgn.; J. Panas, Wes. Rgn.; A. Piska, Cen. Rgn.; D. Edmonds, Pac. Rgn., M. LaFrance, Que. Rgn.; J. Simonin, Pac. Rgn.; M. Rivard, Que. Rgn.; A. Purvis, Ont. Rgn.; M. Koroluk, Wes. Rgn.; K. Leek, Cen. Rgn.; B. Kahler, Cen. Rgn.

Photo Courtesy N.S. Steinhaur
Les photos sont une gracieuseté de N.S. Steinhaur

ICE IS NICE

The Ice Branch set up a display of activities and outputs in the front entrance at AES Headquarters.

Ice Branch Display in Lobby at AES Headquarters.
Exposition montée par la direction des glaces dans le hall de l'Administration centrale du SEA.

Photos by – ab Photographic
Les photos sont une gracieuseté de ab Photographic

Data gathering, ice forecast and advisories, ice climatological data and data from remote sensors were displayed on separate panels with the ode to a ship seemingly catching the eye of the visitors in the pictures shown.

The manual labour of setting the display up was supplied by Ice Observers Y.J. (Jerry)) Franco and D.W. (Dennis) Bitton.

DXING THE WX

by XM33-4008

A stormy night in early January: snow and blowing snow have cut in-town visibility to just under a mile. Weather warnings are out for all forecast regions along the Trans Canada and (according to the last word from the Weather Office) for the Border and Midwestern States as well.

The wind's really howling – a pretty mournful sound when all you've got for immediate company is a cup of coffee, a book, and the odd burst of static from the Citizen's Band Transceiver. That 108-inch antenna up on the roof must sure be whipping around tonight . . .

It's a good night to sit by the radio though, and "monitor" in case some fellow CB'er runs into problems, or comes across somebody who has. Since the warnings were broadcast over "Net" – the daily 6:00 p.m. roll call – there've been over a dozen "Base 1000's" called in over the Emergency channel; tow trucks needed, Police requested at the scene of an accident, even one ambulance required.

It's quiet now, but you never can tell. Not on nights like this, anyway: there's always somebody who gets out on the open road and gets into trouble. Now 27 MHz and 5 watts (on the AM side) may not be the ultimate in broadcast power, but it can reach 10 to 20 miles down that long, windswept highway. And single sideband mode (SSB), which utilizes only one of the three frequencies generated in an AM transmission, doubles the output. (Don't worry about how THAT works – there's no test required for a CB license, only an application through Communications Canada and a nominal licensing fee.)

So, flip through all 23 Communications Channels: not a peep. Turn the dial back. Surprise! Minnesota Mobile is "looking for a copy" on Channel 19.

He's got a problem. He's bound for Calgary and he wants to know how many miles of storm lie between him and his destination. He's doing about 30 miles an hour and barely "keeping the rubber on the road".

A quick call to the Weather Office reveals that the trailing edge of the snow storm is about 150 miles west, creeping along at 20 knots. The math's a bit hairy, but it turns out Minnie Mobile has just under 3 hours – some 80 miles – of storm left. He thinks about it, decides to push on. We chat idly for a while, until his signal begins fading, then bid each other farewell in the customary CB jargon.

You can't help thinking, though, that while 80 miles is barely an inch in a 1:5,000,000 weather map, it's something else entirely when you've got to drive it in blowing snow conditions . . .

The night wears on; you hear snatches of conversation from time to time that seem to indicate the storm is lifting just a little faster than expected. The east though is bad, really bad, and anybody bound for Winnipeg is in for a rough trip.

Surprise again! Fender-Bender base is on the air, ready to take over as monitor from now to daybreak. Old Interceptor base can shut down operations, get some sleep. Yep, it was one ring-dinger of a storm. West's okay, but anybody bound for Winnipeg or Minot is heading into a warning area. Got the Weather Office number handy? Good. Listen, I got a bunch of conversion charts for those Yankee boys who still have trouble with our temperatures. . .

Ten-Four, Fender-Bender. Keep the shiny side up and the wheels on the ground. Interceptor Base is clear and ten-seven. Goodnight, Y'all!

LE FRANGLAIS – NO SIR!

par Hélène Gignac

Depuis plus de 200 ans, les Canadiens français s'entêtent à conserver leur langue. Malgré leur bon vouloir, le voisinage de l'anglais et du français est tel que de nombreux anglicismes se sont glissés dans le vocabulaire de la langue française. Certains mots ou expressions anglais sont si usités qu'on en arrive à croire que ces termes sont français. L'erreur la plus grossière, dans un tel cas, serait de "s'imaginer" qu'ils sont fixés par l'usage, particulièrement lorsque leur emploi n'est pas limité au Québec.

Il serait bon de définir ici ce que l'on entend par anglicisme. Les dictionnaires en donnent la définition suivante: "Mot, expression, tournure, construction propre à la langue anglaise et qu'il est par conséquent fautif d'employer dans une autre langue". Est un anglicisme même l'emprunt ou le calque d'un mot que l'anglais a emprunté à une autre langue, pourvu que nous ayons emprunté ce mot non pas directement de cette autre langue mais de l'anglais.

Pour mettre en lumière la fréquence des anglicismes au Québec, nous en signalerons quelques exemples de par leur catégorie respective. Au seul niveau du vocabulaire, on peut les classer en trois catégories: premièrement, les mots anglais employés tels quels et les barbarismes dérivés de ces mots prononcés à l'anglaise ou à la française (ex. canceller au lieu d'annuler); deuxièmement, les mots anglais dont on francise l'orthographe ou la prononciation (ex. record au lieu de dossier ou disque); troisièmement, les mots français employés aux sens des mots anglais qui leur ressemblent (ex. agenda au lieu de ordre du jour).

Les faits sont là: la langue française au Québec est des plus contaminée.

Constater n'est pas régler. Le problème n'est pas d'hier: la convalescence en sera donc plus longue.

Les mots qui suivent sont le signe évident de la lutte quotidienne à mener contre l'anglicisme. Leur utilisation vaut à la langue française de se voir décerner ses premiers lauriers dans la guerre des mots.

– Canton: n.m. (1862) Division cadastrale généralement quadrangulaire dont la superficie normale est de cent milles carrés.

1966
C'est Gérin-Lajoie qui employa le premier le mot canton au lieu de township dans Jean Rivard . . . G. Dulong, Bibliographie linguistique . . , p. 96, Nº 668.

– Fin de semaine: n.f. Congé comprenant habituellement la journée du samedi et celle du dimanche (variante franco-canadienne de week-end). Passer sa fin de semaine à la campagne.

– Mille: n.m. Mesure de longueur, de distance, usitée au Québec, qui vaut 5 280 pieds ou 1 609,34 mètres.

– Millage: néologisme, n.m. Nombre de milles parcourus, indiqué au compteur d'un véhicule automobile. Le millage d'une voiture.

– Traversier: n.m. (1880) Navire servant au transport des véhicules (parfois de wagons de chemin de fer) et de leurs passagers d'un bord à l'autre d'une étendue d'eau.

1967
L'Office du vocabulaire français a accepté ce mot pour désigner tout bâtiment assurant la traversée d'un lac, d'un fleuve, d'une rivière ou d'un détroit. Fiche du Comité linguistique de Radio-Canada.

– Verge: n.f. Unité de mesure utilisée au Québec et valant 3 pieds ou 36 pouces, soit 0,914 mètre.

– Vivoir: n.m. (1919) Salle de séjour.

1919
Variante franco-québécoise de living-room. Apparaît dans la 3e édition du Dictionnaire du bon langage de Blanchard, p. 152.

IN-SERVICE DISPLAY

At a recent Teachers' In-Service Meeting, – a city-wide gathering of teachers interested in social sciences, the Winnipeg Weather Office undertook a display of the organization of weather services, instrumentation and distribution of pertinent literature. This

display was manned by Mr. A.H. Lamont and Mr. I. Held from the Winnipeg Weather Office and proved to be very successful as there were several hundred teachers at this gathering, many of whom are responsible for the meteorology portion of the school curriculum.

In-Service Display for Social Science Teachers – 1975.
Exposition montée uniquement pour les professeurs de sciences sociales (1975).

PERSONNEL

The following have accepted positions as a result of competitions:
Les personnes suivantes ont accepté ces postes après concours:

75-DOE-TOR-CC-259	Operations Supervisor MT 5 22 NRWC North Bay B.R. Ramsay
75-DOE-WIN-CC-543	Chief Meteorologist MT 8 Prairie Weather Centre D. Henry

75-DOE-WIN-CC-518	Officer-in-Charge EG7 Mould Bay J. Dagenais
75-DOE-WIN-CC-511	Shift Supervisor MT 7 Prairie Weather Centre F.J. Sebastian

The following transfers took place:
Les transferts suivants ont été effectués:

F.J. Letchford	From:De CFB Cold Lake To:A CFB Edmonton MT 2
D.F. Cameron	From:De Ontario Weather Centre To:A CFB Ottawa MT 5 (A)
Capt. M.H. Purves	From:De CFOCS Chilliwack To:A CFB Europe MT 3
R.B. Saunders	From:De CFB Moose Jaw To:A DMETOC Ottawa MT 4
P.J. Delannoy	From:De CFB Portage la Prairie To:A CFOCS Chilliwack MT 2
R.J. Cormier	From:De Winnipeg Weather Office To:A CFB Greenwood MT 2
R.C. Jacobs	From:De Prairie Weather Centre To:A Regina Weather Office MT 3
W. Cowan	From:De Edmonton Weather Office To:A Inuvik Weather Office EG-ESS 5
K. Nelles	From:De Inuvik Weather Office To:A Arctic Weather Office EG-ESS 5
K.A. Fluto	Lateral MT 7 Sr. Development Officer-ODIT

The following are on temporary duty or special assignment:
Les personnes suivantes occupent temporairement ces emplois ou sont en stages spéciaux:

L. Jaworski	To:A	MOTTI Ottawa
B.W. Veale	To:A	Fleet School, Halifax

The following are recent graduates from TCTI:
Nouveaux diplômés de TCTI:

I. Stach	To:A	Gimli
A. Gillespie	To:A	Cree Lake
K.N. Hoas	To:A	Wynyard
B. Winters	To:A	Atikokan
B. Boyle	To:A	Prairie Weather Centre

Resignations:
Démissions

H.E. Powers	From:De Eureka EG-7
J. McLean (Ms.)	From:De Resolute EG-3
S. Millard (Ms.)	From:De Resolute EG-3
D. Derkacht	From:De Broadview EG-2
E.A. Kurtz	From:De Winnipeg AS-1

The following retirement took place:
La personne suivante a pris sa retraite:

Mr. R.C. Graham	Regional Director Ontario Region, retired December 1975

TRIVIA

Most of us can easily do two things at once;
what's all but impossible is to do one thing at once.

* * * *

Even when the will of the people is expressed
it is carried through by a slow freight.

* * * *

There is no reason to worry about your station in life,
somebody will always tell you where to get off.

* * * *

Taking the way of least resistance
leads to the place of least importance.

They seem to have everything in a spray can
except happiness.

* * * *

If you are to make daydreams work,
you must first wake up.

* * * *

Mathematicians may deny it,
but it is possible for certain well arranged sets of curves
to make a triangle.

* * * *

In these days of uncertainty,
the only things you can count on are your fingers.

* * * *

EXPRESSIONS DIVERSES

Expression	Signification ou équivalent
Se donner du trouble	Se créer des problèmes
Taper des mains	Applaudir
Se conduire en écoeurant	Avoir une mauvaise conduite
Il fait la pluie et le beau temps	Il a un pouvoir absolu
Solide comme le roc	Musclé, résistant, opiniâtre
Gai comme un pinson	Joyeux
Choque-toi pas	Ne te fâche pas
J'ai calé mon examen	J'ai raté mon examen
Je suis au bout de ma corde	Je suis complètement épuisé
Se faire une montagne avec quelque chose	Exagérer les difficultés

WHAT PRICE EFFICIENCY! !

An organization and methods unit visited the University of Liverpool to examine the efficiency or inefficiency of the workings of the vice-chancellors' office. The visit coincided with one of the concerts of the Royal Liverpool Philharmonic Orchestra, to which the vice-chancellor was in the habit of going.

On this occasion he could not go, and with his usual generosity gave his ticket to the leader of the O and M unit: who had never been to a symphony concert before. The main work that night was Schubert's "Unfinished Symphony"

When he asked his visitor the following morning how he had enjoyed the concert, the vice-chancellor was surprised to be handed a two-page typewritten report:

> "For considerable periods the four oboe players had nothing to do. The number should be reduced and their work should be more conveniently spread over the whole concert, thus eliminating peaks of activity.
>
> "All the 12 violins were playing identical notes. This seems unnecessary duplication. The staff of this section should be drastically cut, and if a large volume of sound is really required this could be obtained by means of an electronic amplifier.
>
> "Much effort was absorbed in the playing of demi-semiquavers. This seems to us an excessive refinement and it is recommended that all notes be rounded up to the nearest semiquaver. If this were done it should be possible to use trainees and lower-grade operators.
>
> "There seems to be too much repetition of some musical passages. No useful purpose is served by repeating with horns the passage that has already been handled by the strings. If all such redundant passages were eliminated, the whole concert time of two hours would have been reduced by 20 minutes and there would have been no need for an interval.
>
> "If the composer had attended to these matters, he would probably have been able to finish his symphony."

PROVERBES QUÉBÉCOIS

– Il ne faut pas avoir les yeux plus grands que la panse.
Il ne faut pas trop en désirer. Généralement en parlant de la nourriture.

– Il ne faut pas ambitionner sur le pain bénit.
Il ne faut pas trop vouloir obtenir de faveurs.

– Il ne faut pas péter plus haut que le trou.
Il ne faut pas montrer trop d'orgueil.

– Faute de pain, on mange de la galette.
Faute de plus, on se contente de ce qu'on a.

– Qui trop embrasse, mal étreint.
Qui désire trop quelque chose, le retient mal.

– A penser on devient pensu.
A trop penser on se perd.

– A cheval donné on ne regarde pas la bride.
Il ne faut pas rechigner sur un don!

– La nuit tous les chats sont gris.
Dans l'ignorance, tout se ressemble.
Connotation sexuelle: La nuit toutes les femmes sont jolies.

BY THEIR FEATS YE SHALL KNOW THEM! !

THE MINISTER

Leaps tall buildings in a single bound
Is more powerful than a locomotive
Is faster than a speeding bullet
Walks on water
Gives policy to God

THE DEPUTY MINISTER

Leaps short buildings in a single bound
Is more powerful than a switch engine
Is just as fast as a speeding bullet
Talks with God

THE ASSISTANT DEPUTY MINISTER

Leaps short buildings with a running start and favourable winds
Is almost as powerful as a switch engine
Is faster than a speeding BB
Walks on water on an indoor swimming pool
Talks with God if special request is approved

DIRECTOR GENERAL

Makes high marks on the walls when trying to leap tall buildings
Is run over by locomotives
Can sometimes handle a gun without inflicting self-injury
Treads water
Talks to animals

BRANCH DIRECTOR

Barely clears a quonset hut
Loses tug of war with locomotive
Can fire a speeding bullet
Swims well
Is occasionally addressed by God

SECTION CHIEF

Climbs the walls occasionally
Rides the rails
Plays Russian roulette
Walks on thin ice
Prays alot

POLICY ANALYST

Runs into buildings
Recognizes locomotives two out of three times
Is not issued ammunition
Can stay afloat with a life jacket
Talks to walls

DISCIPLINE SPECIALIST

Falls over doorstep when trying to enter building
Says "Look at the choo-choo"
Wets himself with a water pistol
Plays in mud puddles
Mumbles to himself

SECRETARY

Lifts buildings and walks under them
Kicks locomotives off the tracks
Catches speeding bullets in her teeth and eats them
Freezes water with a single glance
She is God

$$1 + 1 = 2 \qquad \text{(I)}$$

Anyone who has made a study of advanced mathematics is, of course, aware that:

$$1 = \ln e$$

and that:

$$1 = \sin^2 x + \cos^2 x$$

further:

$$2 = \sum_{n=0}^{\infty} \frac{1}{2^n}$$

Therefore, equation (I) can be expressed more scientifically in the form:

$$\ln e + (\sin^2 + \cos^2 x) = \sum_{n=0}^{\infty} \frac{1}{2^n} \qquad \text{(II)}$$

This may be further simplified by use of the relations:

$$1 = \cosh y \cdot \sqrt{1 - \tanh^2 y}, \qquad e = \lim_{z \to \infty} \left(1 + \frac{1}{z}\right)^z.$$

Equation (II) may therefore be rewritten:

$$\ln \left\{ \lim_{z \to \infty} \left(1 + \frac{1}{z}\right)^z \right\} + (\sin^2 x + \cos^2 x) = \sum_{n=0}^{\infty} \frac{\cosh y \cdot \sqrt{1 - \tanh^2 y}}{2^n} \qquad \text{(III)}$$

or:

$$\ln \left\{ \lim_{z \to \infty} \left(1 + \frac{1}{z}\right)^z \right\} + (\sin^2 x + \cos^2 x) - \sum_{n=0}^{\infty} \frac{\cosh y \cdot \sqrt{1 - \tanh^2 y}}{2^n} = 0. \qquad \text{(IV)}$$